

**REMARKS**

Claims 8, 9, and 14 were rejected. Claim 9 is canceled. Claims 8 and 14 have been amended. None of the amended claims introduce new subject matter. Amended claims 8 and 14 are supported at page 9, line 24 through page 10, line 10. Claims 8 and 14 are pending.

**35 U.S.C. 103(a)**

Claims 8, 9, and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art (shown in Fig. 1 and described at page 1, line 15 to page 5, line 29) in view of Lutz et al. (USP 4,586,344) and Oswalt et al. (USP 4,769,998). Applicant traverses the rejection.

The Examiner conceded that the Admitted Prior Art does not disclose a source of liquid coolant for the evaporator in the temperature range of 0° to 50°C. The Examiner introduced Lutz et al. as teaching an evaporator for liquid propane with a source of liquid coolant at about 50°C along with means to adjust the pressure of the evaporator from about 0.1 to 0.7 MPa. The Examiner concluded it would have been obvious to use the coolant taught by Lutz et al. in the evaporator of the Admitted Prior Art because it is merely the selection of coolant known to be effective in an evaporator, so that there would have been a reasonable expectation of success in selecting such a known coolant.

Applicant disagrees with this conclusion. The coolant taught by Lutz et al. is actually two coolants, the two coolants being substantially immiscible or partially miscible absorption and mechanical refrigerants such as propane and ammonia. The two refrigerants are evaporated in a common evaporator stage producing refrigeration and forming a vapor mixture which has a total vapor pressure substantially greater than that obtainable when only a single refrigerant is employed. (Col. 2, lines 44-56). Since the success of the Lutz et al. coolant depends on having absorption and mechanical coolants operating together, and transforming from liquid coolant to a vapor mixture, the use of the coolant taught by Lutz et al. in the evaporator of the Admitted Prior Art does not lead to the present invention. This difference between the present invention and the combination of the Admitted Prior Art, Lutz and Oswalt teachings is even more outstanding in light of the amendment to claim 8 which specifies that the liquid coolant is water or brine. A further difference, besides the particular coolant, is that only in the present invention is the

coolant chilled by recovering latent heat of the liquefied propylene or propane. This further difference is what makes claim 14 non-obvious over the combination of prior art.

The Examiner makes another statement with which Applicant disagrees. The Examiner states (at p. 3-p. 4 of the Office Action):

“Admitted Prior Art discloses that a coolant supplied to said evaporator is chilled by evaporating liquefied propylene and/or propane (Fig. 1) and the reference discloses that said apparatus comprises various heat exchangers which use a liquid coolant (Fig. 1 and P2/L18), such as an absorbing solvent cooler (8) and a circulation cooler (9) attached to the acrylic acid absorbing column (5), a condenser (10) attached to the solvent separating column (6) and a condenser (11) attached to the acrylic acid refining column (7). The reference does not explicitly disclose that said chilled coolant can be used in said heat exchangers in the apparatus and later re-circulated back to the evaporator.”

Applicant disagrees with this statement because the Admitted Prior Art does not ever disclose a coolant supplied to the evaporator in Fig. 1 nor a coolant chilled by evaporating liquefied propylene and propane, as stated initially in that paragraph. Figure 1 shows an evaporator (3) into which is introduced liquefied propylene (14) and steam (17). (See explanation on p. 2, lines 1-7 and p.3, lines 19-25). Nowhere is it shown that a coolant is supplied to the evaporator. In Fig. 1, the coolant supplying system (1) is shown to be in no way connected to the evaporator.

In the Examiner's statement, above, the Examiner conceded, in the last sentence that the Admitted Prior Art does not disclose chilled coolant used in heat exchangers and later re-circulated back to an evaporator.

The Examiner then combined Oswalt et al., stating about Oswalt et al.:

“Oswalt et al. teaches that it is known to prepare a process coolant, which can be used as a coolant in heat exchangers in various processes (C1/L9-19), by passing a liquid coolant through an evaporator (6). Chilled coolant from said evaporator (6) is used in various processes and spent process coolant is being re-circulated back to the evaporator (6).”

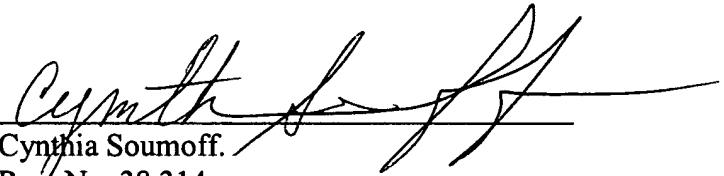
The Examiner stated that it would have been obvious to use a liquid coolant in the evaporator of Admitted Prior Art to prepare a chilled coolant and use the chilled coolant in heat exchangers as taught by Oswalt et al. Applicant disagrees. Neither Oswalt, nor Lutz nor Admitted Prior Art disclose chilling coolant in an evaporator by recovering latent heat of

liquefied propylene and/or propane that is supplied to the evaporator. Therefore, the combination of references that the Examiner assembled still does not teach or suggest the claimed invention of claims 8 and 14 and does not provide an expectation of success for the apparatus as claimed. For all the reasons discussed, Applicant respectfully requests that the rejection be reconsidered and withdrawn.

In view of the foregoing, Applicant submits that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should he believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

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Cynthia Soumoff.  
Reg. No. 38,314  
Attorney for Applicant

MATHEWS, SHEPHERD, McKAY & BRUNEAU, P.A.  
29 Thanet Road, Suite 201  
Princeton, NJ 08540  
Tel: 609 924 8555  
Fax: 609 924 3036